

ably in energy in their eastward movement as they approached the Great Lakes, and resulted in more than the usual amount of precipitation in the eastern and southern portions of the region. The relatively low temperature in the Lake region was, moreover, a result of this development, producing as it did, steep gradients and strong northwest winds in the rear of the disturbances.

However, there was really no storm of unusual intensity during the entire month. The disturbances were for the most part of moderate energy as they passed across the region. Warnings, either small craft or storm, were displayed on the Great Lakes on various occasions; and frost warnings were issued when conditions warranted over the eastern and southern portions of the Forecast District where vegetation required protection.

The special long-range forecast service for the protection of fruit from the Pacific Northwest in transit through the Dakotas and Minnesota was begun on October 21.—*H. J. Cox.*

NEW ORLEANS FORECAST DISTRICT

The month averaged warm and rainy for the season, although during the last two weeks a number of small, North Pacific highs, attended by cool periods, moved over the district.

The first frosts of the season occurred on the 21st and 24th in the extreme northwestern portion of the district and were in accordance with warnings issued the preceding mornings. The first general frost warning for the northern portion of the district was issued on the 24th. Frost occurred the following morning, not only in the northern portion, but also in interior sections of the extreme southeastern portion. No frosts of importance occurred during the remainder of the month except on the 31st, in the more northern sections of the district, and this was predicted.

No general windstorm occurred. The only storm warnings were issued for the Louisiana coast on the 23d, at 8.30 p. m., because of squally conditions on the Texas coast, which were expected to move eastward with a disturbance from south Texas. The disturbance advanced as expected, but did not cause verifying winds on the Louisiana coast and warnings were lowered the next morning. On the 28th, small craft warnings were displayed on the east and middle coasts of Texas for fresh to strong southerly winds.—*R. A. Dyke.*

DENVER FORECAST DISTRICT

With high barometric pressure predominating over the middle and southeastern portions of the district and the frequent passage of depressions eastward along the Canadian border, the month was unusually mild and precipitation was deficient everywhere except in the northwestern and extreme southeastern portions of Wyoming. There was an almost entire absence of severe weather conditions, so that no general warnings were necessary. Frost and freezing temperature advices, most of which were verified, were issued from time to time for portions of southern Wyoming, western Colorado, and eastern New Mexico.—*E. B. Gittings, jr.*

SAN FRANCISCO FORECAST DISTRICT

On October 4 the depression which had occupied the Gulf of Alaska for several days deepened rapidly and

showed signs of moving onto the coast of Washington and British Columbia. Advisory warnings of this probability were consequently sent out to display stations in Oregon and Washington. The disturbance, however, moved northward and diminished in intensity and warnings were not hoisted until the second day after, when they were displayed at all ports from Marshfield north. Southerly gales occurred that day along the coast. On the 8th a new disturbance developed in the Gulf of Alaska and southeast warnings were ordered from Eureka to Cape Flattery in the morning, and extended south to Point Reyes in the evening. Strong winds and gales followed during the night and day after. Timely warnings of rain were sent to all fruit-drying interests in northern California in connection with this disturbance, so that all were enabled to get their fruit under cover.

Conditions began to show a generally disturbed complexion over the northeast Pacific on the 9th, and by the 12th a well developed low was approaching the Oregon-Washington coast which seemed to require the display of warnings. These were consequently ordered from Cape Blanco north, but were not justified by wind conditions as registered at coast stations, and although gales presumably occurred at sea, the warnings were allowed to expire the day following. However, on the 14th they were displayed again, due to the inward passage of a portion of the ocean low over British Columbia, and this time they were followed by strong gales on the coast. The pressure during this period was abnormally low over the greater part of the northeast Pacific, readings in the Gulf of Alaska being below 29.00 inches. Warnings were continued until noon of the 16th, attendant gales subsiding that night.

Another low pressure system of similar character filled the northeast Pacific Ocean during the ensuing week, and on the approach of this disturbance to the Oregon-Washington coast southeast warnings were again displayed, which were verified by the occurrence of strong gales during the day. There was no occasion for warnings during the remainder of the month and no further displays were ordered.—*T. R. Reed.*

627.41 (73) RIVERS AND FLOODS

By H. C. FRANKENFIELD

Report has already been made in the MONTHLY WEATHER REVIEW for September, 1926, of the destructive floods that occurred during that month in the rivers of Indiana, Illinois, Iowa, Missouri (except in the Missouri and Grand Rivers), eastern Kansas and eastern Oklahoma. In general the rains that caused these floods began during the second week of August and continued through the early days of October, although they were neither so widespread nor heavy during the second half of September. Over the Great Central Valleys the rainfalls for that month occurred generally in five principal periods (the last of which continued into October) as follows: September 1-6, 9, 12-16, 20, and 22-October 5. These rains were so phenomenal for the season that a table was prepared showing the general rain conditions for September over the flooded areas. The column showing the excess of rain above the normal amounts is especially significant.